Global health challenges: perspectives from the Fogarty International Center

Article by Sharon Hemond Hrynkow

As the global community strives to address the health objectives contained in the U.N. Millennium Development Goals we believe a look back as well as forward on the issue of human capacity would prove instructive. We applaud the Global Forum for Health Research for supplying a medium for this retrospective and prospective analysis. We offer our perspective to spark innovative thinking and fresh dialogue as well as to encourage collaborations among partner agencies in order to successfully address shared challenges in global health.

All of us recognise that we need more research to confront the MDG health challenges. Effective vaccines against HIV and AIDS, additional and more effective interventions to protect the health of women and their newborns, and greater understanding of the links between poverty and health of populations, families and individuals – all depend upon strong research foundations, North and South.

Given the importance of the scientist and clinical researcher to the vitality of the research enterprise, we will review current training approaches and outline trends.

Review of training approaches

The Fogarty International Center (FIC) was launched more than 35 years ago to build international linkages for the purpose of advancing medical research. Today, FIC addresses global health challenges by fostering international partnerships on behalf of the US National Institutes of Health (NIH) and Department of Health and Human Services (DHHS). As part of its mission, FIC also supports 12 research training programs in such areas as HIV/AIDS, maternal and child health, emerging infectious diseases, bioethics, brain disorders, trauma and injury, and genetics.

In fact, FIC works with virtually every component of the NIH's 27 Institutes and Centers to link major research funders with critical training programmes. Other technical agencies, including Centers for Disease Control and Prevention (CDC) and US Agency for International Development (USAID), as well as partner agencies abroad, like those in Canada and Mexico, are key partners in specific FIC training programmes. Our partner institutions – primarily universities – on the ground in low- and middle-income nations, play a lead role in defining the scope of the training programmes.

Building on a successful model. The FIC training model links a US institution with a counterpart abroad on a specific research project and supports training to advance that project. Our flexible approach, which allows training PhDs, post-doctoral fellows, Masters students, allied health professionals and others in different areas (such as descriptive epidemiology, virology, behavioural interventions, laboratory methods, and public health) has contributed to strengthened research infrastructures in more than 100 low- and middle-income nations.

For example, the AIDS International Training and Research Program in South Africa, under the leadership of Dr Salim Abdool Karim (chaos.cpmc.columbia.edu/sphdir/pers.asp?ID=563), has supported 33 Masters and Doctoral students, 59 short-term trainees, and more than 400 scientific publications. Current and former trainees in the Karim programme work on some of the most important research studies in South Africa – those targeting development and deployment of effective HIV and AIDS prevention technologies. Other FIC research and training programmes that use the same model as the AIDS programme are showing similar successes (for details, see the FIC site, www.fic.nih.gov).

We have found that linking vibrant research programmes to ongoing training initiatives is one essential ingredient for long-term, successful research programmes. Further, broad support for the programmes, including the local level, is a key for success.

Future challenges

From our discussion, the question naturally arises: where do we go from here? Among the continuing demands in building capacity are ensuring that young scientists in the South receive solid research training locally and then move into meaningful research positions. Today, laboratory infrastructures in many settings are declining or are non-existent.

Among the challenges we collectively face are to develop a strong research culture that allows individual investigators and teams to flourish as well as to translate scientific advances into healthcare practices.

As part of the FIC mission, we are addressing some of these challenges in novel ways. We offer details about them here for

information and to prompt discussion.

Combating brain drain. While the return rate for foreign scientists participating in the United States through the FIC AIDS training programs is about 80%, not all programmes fare as well. Two new approaches we recently launched are steps to improve the return rate in other programmes.

The first approach is a re-entry grant for scientists from low-income nations who were supported by the FIC programmes or trained on the NIH campus in Bethesda, Maryland. This so-called 'Global Health Research Initiative Program,' or GRIP, offers support, competitively, for up to five years for junior scientists who return home. With more than 30 GRIPs awarded, FIC expects that the scientists will successfully compete for research funds from the broader pool five years hence. A few other re-entry programmes, such as the Pew and the Human Frontier Science Programme, work toward the same goal.

The second approach supports the development of networks of NIH-trained researchers in their home countries. These pilot 'alumni associations,' now gearing up in Mexico, Brazil, China, South Africa, and India, will network returning scientists to allow such support activities as exchanging information and sharing professional contacts.

Translating scientific advances into care. Two more new programmes provide opportunities for scientists to train in clinical, operational and health services research. The programmes, one focused on mental health and the other on AIDS and TB, will build translational capability in countries in need. What remains a priority is bridging the gap between basic and behavioural science and development and deployment of effective interventions.

Research Teams of the Future. One of the central tenets of the NIH Roadmap (www.nihroadmap.nih.gov), the initiative launched by NIH Director Elias A, Zerhouni, MD to chart a 'roadmap' for medical research in the 21st century, is supporting novel approaches to building research teams of the future.

Forging relationships among scientists in diverse disciplines and supporting efforts to build successful inter-disciplinary programmes are major challenges facing researchers today. Applying this principle to global health issues, we see the need for new team approaches. For this reason, FIC and the National Center on Minority Health and Health Disparities (part of NIH) teamed with the Ellison Medical Foundation to launch a clinical research training programme.

Started in 2004, this programme supports one year of mentored clinical research training for US and foreign students, paired at the beginning, in a strong research institution in the developing world. Fourteen well-funded NIH sites were selected for the 2004–2005 cycle, each with a strong scientific track record and culture of teaching. We expect that students in this program will strongly consider a career in clinical research and that their experiences working on global health challenges will encourage them to take on global issues. We also expect collaborative ties between and among this next generation of researchers.

Medical Research and Public Health. In some countries, training in epidemiology and public health has led to the creation of dedicated public health professional degree programmes. In June 2004, DHHS Secretary Tommy Thompson announced the launch of the first-of-its-kind Masters programme in public health at St Petersburg State University in Russia. This programme builds on research training efforts supported by FIC and its partners, the National Institute of Environmental Health Sciences and the CDC. We expect the programme to lead to the development of a formal school of public health in the coming years. One key to success is building the evidence-based knowledge base, as countries work to develop more effective health care systems. Similar efforts are underway in India and Malawi.

On the horizon. Recognising that inside a university, schools and departments can play different roles in advancing the global health agenda, FIC is exploring new approaches to tackling global health challenges within academia. Under review are models that link multiple schools – for example, business, journalism, medicine, public health, and engineering – in an attempt to more effectively address global health issues. New thinking introduced by academic colleagues from non-traditional disciplines may not only spark new approaches, but more effectively energize the next generation of global health researchers in the developed and the developing world.

In summary, from the FIC perspective, 'global health' means having much to share and much to learn from partners, North and South. We will continue to seek innovative ways to build capacity in research in order to develop and deploy new understanding and technologies with the goal of improving global health. We are open to your ideas and want to exploit new opportunities. As we work toward developing more effective capacity building programmes and identifying new strategies to improve global health, we will always welcome the views of scientists and health professionals from around the world. ❑

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